REPATRIATION MEDICAL AUTHORITY

STATEMENT OF REASONS

REGARDING THE DECISION TO MAKE STATEMENTS OF PRINCIPLES FOR CHRONIC MULTISYMPTOM ILLNESS
TABLE OF CONTENTS

Part I Introduction .................................................................................................................................................. 3

Part II Background to the Investigation ........................................................................................................... 3

Part III Submissions received by the Authority pursuant to section 196F ......................................................... 3

Part IV Evidence/Information Available to the Repatriation Medical Authority ............................................. 4

Part V Disease and injury .................................................................................................................................... 5

Part VI Reasons for the decision ....................................................................................................................... 6
  Background and literature search ..................................................................................................................... 6
  Symptom-based conditions ............................................................................................................................... 6
  Findings on symptom reporting in Gulf War veterans .................................................................................... 6
  Evidence for a syndrome unique to the Gulf War or to specific Gulf War-related exposures .................... 7
  Is there a disease related to Gulf War service (and possibly other factors) that is defined by reporting of multiple symptoms? ................................................................. 8
  Symptom reporting in relation to perceived risk and exposure to stressors .............................................. 10
  Impairment as a result of chronic symptoms ............................................................................................... 11
  Conclusion ....................................................................................................................................................... 12

Part VII Decision .................................................................................................................................................. 13

Part VIII Bibliography ........................................................................................................................................ 14
  Bibliography discussion paper ......................................................................................................................... 14
  Bibliography main briefing paper .................................................................................................................. 19
PART I INTRODUCTION

1. The Repatriation Medical Authority (the Authority) has decided to make Statements of Principles under subsections 196B (2) or (3) of the Veterans' Entitlements Act 1986 (the Act) in respect of chronic multisymptom illness, following notice of a review of the decision concerning Gulf War syndrome, gazetted on 31 October 2012 in the Commonwealth of Australia Gazette.

PART II BACKGROUND TO THE INVESTIGATION

2. In 2003, following an investigation the Authority declared that it would not make a Statement of Principles concerning Gulf War syndrome for the purposes of subsection 196B(2) or (3) of the Act, as the available sound medical-scientific evidence led the Authority to conclude that there was no unique Gulf War syndrome that could be a "disease" or "injury" as defined in section 5D of the Act.

3. In 2010, following a review of their 2003 decision, the Authority concluded that available sound medical-scientific evidence continued to support the 2003 decision and re-affirmed that Gulf War syndrome is not a "disease" or "injury" as defined in section 5D of the Act.

4. In October 2012 the Authority, acting on its own initiative, notified its intention to carry out an investigation concerning Gulf War syndrome, in accordance with subsection 196G(1) of the Act. An investigation notice was placed in the Commonwealth of Australia Gazette on 31 October 2012.

5. At its June 2013 meeting, the Authority discussed a number of requests pertaining to the currently advertised investigation concerning Gulf War syndrome, which were included in a submission provided by the Chairman of the Australian Gulf War Veterans Association. These requests were for Gulf War illness, chronic multi-symptom illness, multi-symptom illness, "unique" Gulf War neurological symptom complex, Gulf War unexplained illness, War operations involving chemical weapons and other forms of unconventional warfare ICD Code Y36.7, War operations occurring after the cessation of hostilities ICD code Y36.8 and War operations, unspecified, ICD Code Y36.9. The Authority considered these requests and supporting documentation, and determined that these requests would be considered as part of the ongoing investigation concerning Gulf War syndrome.

6. These investigations were undertaken as part of a comprehensive review of matters relating to Gulf War syndrome and other symptom-based disorders.

PART III SUBMISSIONS RECEIVED BY THE AUTHORITY PURSUANT TO SECTION 196F

7. Following notification of its investigation, the Authority received eight submissions from persons or organisations eligible to make submissions pursuant to section 196F of the Act as follows:

(a) Professor Beatrice Golomb, of the University of California, San Diego, in an email received on 25 March 2013.

(b) The Chairman of the Australian Gulf War Veterans Association, received by email on 3 April 2013.
(c) Two eligible persons, received by email on 5 April 2013.

(d) In addition to their written submission, the above two persons gave an oral submission at the June 2013 meeting of the Authority.

(e) Professor Robert Haley, of the University of Texas Southwestern Medical Center, received by email on 5 April 2013.

(f) A member of a veterans' organisation, received by email on 18 June and 20 July 2013.

(g) One of the two eligible persons referred to in (c), received by email on 13 March 2014.

(h) The Acting President of the Repatriation Commission/Acting Chairman of the Military Rehabilitation and Compensation Commission, dated 7 April 2014.

PART IV EVIDENCE/INFORMATION AVAILABLE TO THE REPATRIATION MEDICAL AUTHORITY

8. The following information was available to the Authority.

(a) Submissions and correspondence as detailed in Part III above.

(b) A literature search was conducted using the Pubmed search engine. The main search terms used were "Gulf War syndrome", "Gulf War illness", and "chronic multisymptom illness", "unexplained multisymptom illness" and "pyridostigmine bromide". Articles published from 2010 were selected based on relevance, study quality, reliability and journal authority. Articles relating to relevant methodological issues, medically unexplained symptoms, individual symptoms (pain, fatigue) and other Gulf War exposures were also sought and considered.

(c) Recently published research compiled by the Research Advisory Committee on Gulf War Veterans' Illnesses and made available on the US Veterans Affairs website.

(d) Selected articles from the Binns Report1 published in 2008. All articles referenced in the report were classified in a spreadsheet as to theme, study type and subject type (human or animal). Abstracts for all published peer-reviewed studies were obtained, recorded in the spreadsheet and reviewed. Cohort studies were selected for further detailed examination, in addition to a number of other relevant studies.

(e) Medical or scientific publications as set out in the bibliography attached hereto.

(f) Briefing papers prepared for presentation to the Authority by a research officer of the Secretariat.

PART V  DISEASE AND INJURY

9. The Authority determines Statements of Principles where there is sound medical scientific evidence that "a particular kind of injury, disease or death" is relevantly related to service. 2

10. Section 5D of the Act defines disease and injury relevantly as follows:

   disease means:
   (a) any physical or mental ailment, disorder, defect or morbid condition (whether of sudden onset or gradual development); or
   (b) the recurrence of such an ailment, disorder, defect or morbid condition;

   but does not include:
   (c) the aggravation of such an ailment, disorder, defect or morbid condition; or
   (d) a temporary departure from:
       (i) the normal physiological state; or
       (ii) the accepted ranges of physiological or biochemical measures;

   that results from normal physiological stress (for example, the effect of exercise on blood pressure) or the temporary effect of extraneous agents (for example, alcohol on blood cholesterol levels);

   [and]

   injury means any physical or mental injury (including the recurrence of a physical or mental injury) but does not include:
   (a) a disease; or
   (b) the aggravation of a physical or mental injury.

11. The proper meaning of what constitutes a disease or injury for the purposes of determining a Statement of Principles under the Act is to be determined by the Authority. 3 In considering these terms, the Authority had regard to ordinary dictionary definitions, medical dictionaries, and its expert knowledge. In determining whether a condition is a disease as defined, the Authority is entitled to have regard to the connotations of the word 'disease' as used and understood in its ordinary meaning. 4

12. Being familiar with the ordinary English meanings of the terms that are used in section 5D, the Authority considered whether Gulf War syndrome was "a particular kind of injury, disease or death" within the ordinary meaning of those terms. It also relied upon its expert medical knowledge and had regard to internationally agreed concepts in considering whether Gulf War syndrome and related symptom-based conditions may represent a disease state.

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2 See s196B(2) & (3) of the Act.
4 Comcare v Mooi (1996) 42 ALD 495.
PART VI REASONS FOR THE DECISION

Background and literature search

13. In 2003 and 2010, the Authority reviewed medical and scientific evidence to determine whether “Gulf War syndrome” could be defined as a disease or injury under the Act. These reviews focussed on research that had been undertaken of the health of personnel who had been deployed to the Gulf War of 1990-1. Both reviews determined that there was not a unique disease or injury entity that met the necessary criteria.

14. The purpose of the current investigation was to again review the body of evidence related to the possibility that Gulf War syndrome is a particular kind of disease or injury. This investigation took a broader view than the prior investigations. In addition to examining new sound medical-scientific evidence related to the definition, pathophysiology and potential aetiology of a possible “Gulf War syndrome”, the Authority reviewed sound medical-scientific evidence related to possible syndromes involving multiple symptoms that are unexplained by other medical causes, any overlap among different syndromes, and the possible causes of any syndromes that are determined to be diseases or injuries under the Act.

Symptom-based conditions

15. Disease classification systems use various parameters to define and classify disease, including anatomical location, pathology, clinical presentation, and aetiology. For some diseases, classification and diagnosis is made solely on the basis of self-reported symptoms that have been judged to be clinically significant. Diseases based on self-reported symptoms may generate more scepticism and controversy than those for which an objective diagnostic test is available. One issue that often arises in the context of such diseases is the extent to which they may be purely “psychiatric” conditions, but in the absence of understanding of the pathological mechanism, such a designation is not helpful in determining whether or not they are true disease entities, or identifying the possible causal factors.

16. The Authority currently recognises a number of diseases that are defined on the basis of self-reported somatoform symptoms and for which no objective diagnostic test is available. They include diseases based on single symptoms, such as tension-type headache and migraine and those based on multiple symptoms, such as fibromyalgia, chronic fatigue syndrome, irritable bowel syndrome and somatic symptom disorder.

Findings on symptom reporting in Gulf War veterans

17. Studies of US, UK, Danish and Australian Gulf War veterans have consistently demonstrated a higher prevalence of almost all self-reported health symptoms compared to non-deployed veterans of comparable age\(^5\)\(^6\)\(^7\). Symptoms most frequently reported (and with a similar ranking of frequency) in both groups were fatigue, memory


loss, confusion, inability to concentrate, mood swings, somnolence, gastrointestinal disturbances, muscle and joint pain, and skin or mucous membrane complaints.

18. Researchers who have described the phenomenon of increased symptom reporting by deployed Gulf War veterans compared with non-deployed veterans have used a variety of terms, including Gulf War syndrome⁸, Gulf War illness⁹ or illnesses and Gulf War unexplained illness,¹⁰ with a recent comprehensive report endorsing the term Gulf War illness¹¹.

19. Some researchers have adopted terms that are not specific to the Gulf War experience, including multisymptom illness¹² and chronic multisymptom illness (CMI)¹³. Several working definitions of CMI have been developed for research purposes, based on investigations involving Gulf War veterans.

Evidence for a syndrome unique to the Gulf War or to specific Gulf War-related exposures

20. The available body of sound medical-scientific evidence does not show unique types and patterns of symptoms that are associated with Gulf War deployment. A recent report from the Institute of Medicine concludes that “the Gulf War veterans report more symptoms and with greater frequency and severity than non-deployed veterans or veterans who were deployed elsewhere, but the types and patterns are the same in all groups.”¹⁴ Furthermore, the evidence does not indicate increases in the occurrence of any specific pathology or grouping of pathological signs, the development of new pathological disease entities or processes over time, or an increase in deaths in Gulf War veterans.¹⁵ ¹⁶

21. Apart from Gulf War service in general, there was also no evidence for a syndrome linked to specific individual chemical exposures that may have occurred during the Gulf War. In its 2010 Update of Health Effects of Serving in the Gulf War¹⁷, the Institute of Medicine found no support for the role of cholinesterase inhibitors (sarin, pyridostigmine bromide, carbamate and organophosphate insecticides) in any specific

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illness reported by Gulf War veterans. There is no subsequent evidence that affects
these conclusions, either in relation to individual agents or combinations of agents. The
results of animal and human tests of different combinations of Gulf War agents indicate
no significant long term health effects.\textsuperscript{18} 20 21 22 Some pathological changes have been
identified in recent animal studies, but the relevance of these changes to humans is
uncertain.\textsuperscript{23} 24 25 Similarly, there was no new evidence that vaccinations, depleted
uranium or infections are causally associated with long term symptoms or illnesses of
the kind reported by Gulf War veterans.

22. However, as discussed in more detail below, there is evidence from observation of
various deployed populations, including persons who were deployed to the Gulf, that
there is a disease or illness that is linked to deployment or warlike service more
generally.

\textit{Is there a disease related to Gulf War service (and possibly other factors) that is defined by
reporting of multiple symptoms?}

23. The increased frequency of reporting of multiple symptoms in people deployed to the
Gulf War raises the question of whether the known phenomenon of multiple symptom
reporting can be considered as a disease in its own right.

24. Studies of this question have been carried out in both military and civilian populations.
Symptoms that cannot be explained by a recognised pathological condition are
prevalent in the civilian population\textsuperscript{26} 27 and have been reported in relation to various

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military deployments for more than a century. There is much debate about the best way to conceptualise phenomena involving medically unexplained symptoms.

25. In general medical practice such symptoms, either individually or in defined groupings, have attracted a number of different diagnostic labels, including somatization disorder, undifferentiated somatoform disorder, pain disorder, medically unexplained physical symptoms, functional somatic syndromes and somatic symptom disorder, fibromyalgia and chronic fatigue syndrome.

26. Diagnostic labels such as these have allowed communication and consistency between clinicians, patients and researchers in terms of treatment, prognosis and the study of aetiological mechanisms. Diagnostic labels can change over time, in line with discoveries in medical science and the development of a new understanding of the condition.

27. In military populations of the 19th and 20th century, names given to symptoms or symptom groupings that appeared to increase following combat experience have included irritable heart, soldier’s heart, Da Costa’s syndrome, shell shock, psychoneurosis and post-Vietnam syndrome.

28. The phenomenon of high rates of multiple symptom reporting has been observed in recent military deployments (Iraq and Afghanistan, East Timor) and in groups with various chemical exposures (military personnel exposed to jet fuel, solvents and other chemicals, firefighters and the general population).

29. The symptom-based condition that has been reported in association with Gulf War service is frequently found in association with other symptom-based conditions. For example, it has been found to occur more frequently in people with chronic fatigue

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syndrome and in those with widespread pain. There may be an association with fibromyalgia but it is less clear, possibly due to smaller numbers of studies.  

30. Various explanations have been proposed for this overlap between symptom-based conditions. There is overlap in case definitions and the actual diagnosis given to similar clusters of symptoms may depend on the specialty of the health care practitioner applying the diagnostic term, or the predominant symptom. Individual factors predisposing to the expression of symptoms include past experience of illness in self or others, history of torture and trauma (including childhood trauma), and personality factors. It is possible that symptom-based conditions have common underlying biological mechanisms, such as the amplification of bodily sensations or central nervous system pathology.

Symptom reporting in relation to perceived risk and exposure to stressors

31. Military deployments often involve actual or potential exposure to environmental hazards. There is evidence from military studies, as well as laboratory and natural experiments not involving actual exposures, of a relationship between reporting of exposures perceived as hazardous, and the reporting of physical symptoms. These data suggest that concerns about exposures, whether the exposures are perceived or real, can have powerful effects on health.

32. In addition to exposure to environmental hazards, deployments entail exposure to psychological stressors. Like veterans of other deployments, Gulf War veterans reported many such stressors, including fear of death and perceived threat of attack.

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In the Australian Gulf War Veterans’ Health Study, stressor exposure was quantitatively associated with psychological disorders\textsuperscript{50, 51}, and also with multiple symptom reporting\textsuperscript{52}. Among US Gulf War veterans, perceived threat was a stronger predictor of symptom reporting and being classified as having chronic multisymptom illness than self-reported combat exposure or injury.\textsuperscript{53}

33. In seeking to understand the matter of multiple symptom reporting, researchers have proposed that symptoms can be perpetuated by a range of interrelated physiological, psychological and social factors.\textsuperscript{54, 55} In Gulf War veterans these factors could include the threat of attack from chemical and biological weapons, the use of unfamiliar preventive measures, media reporting of adverse health effects, beliefs that symptoms are indicative of something serious, specific attributions of symptoms to particular exposures, lack of social support and lack of clear explanations from authorities.\textsuperscript{56, 57, 58}

34. If there is a role of perceived risk or stressors in generating multiple symptoms, the pathogenesis remains unclear. Changes in the central nervous system identified in various functional imaging studies of the brain may represent a final common pathway in response to external exposures or stressors,\textsuperscript{59, 60} but it is as yet unknown if they are specific to any particular exposure or if they are a cause or consequence of a given clinical condition.

\textit{Impairment as a result of chronic symptoms}

35. Many symptoms arising in the context of CMI-type syndromes, even if not linked to recognisable pathology, may cause clinically significant distress or impairment in social, occupational, or other important areas of functioning. The level of disability


establishes a threshold for diagnosis of disease. This is particularly important where there are no objectively defined diagnostic criteria. DSM-5 recognises that symptoms can be considered a disorder if they result in significant disruption to daily life and cause excessive anxiety.\(^6^1\) The World Health Organisation recognises that varying levels of disability can be applied to any medical or psychiatric condition.\(^6^2\) A number of Statements of Principles incorporate criteria which specify a level of impairment of social and occupational functioning (for example, chronic fatigue syndrome, somatic symptom disorder, fibromyalgia, alcohol use disorder, substance use disorder, depressive disorder, bipolar disorder, posttraumatic stress disorder).

36. The physical functioning and quality of life associated with CMI-type syndromes does appear to be stable, that is, multiple somatoform symptoms are associated with persistent reduction in quality of life and continuing disability.\(^6^3\) Recently published studies have found that Gulf War veterans report persistent poor health and disability to a greater degree than non-deployed veterans\(^6^4\) or worse general health in comparison to normative means for similar age groups.\(^6^5\) In a study based in the general population, high symptom reporting was associated with psychological distress, negative self-perceived health, sleeping disorders and twofold more primary care and hospital utilisation.\(^6^6\) When two different symptom-based syndromes occur in conjunction with each other, there is consistently greater impairment, disability, distress and economic loss.\(^6^7\)

**Conclusion**

37. In summary, multiple symptom reporting in Gulf War and other veterans is consistent with phenomena involving multiple symptom reporting in the general population which have attracted similar, but not completely overlapping, medically recognised diagnostic labels, and for which Statements of Principles have been developed.

38. On the basis of the currently available sound medical-scientific evidence, the Authority has determined that there is insufficient evidence to designate a disease or injury which is specific to the Gulf War. However, the Authority recognises that there is a grouping of medically unexplained symptoms experienced by veterans of various deployments, as well as people in various civilian settings, and that these symptoms may cause significant distress and disability, such that they meet the definition of a disease. There is a reasonable hypothesis that such symptoms are a result of exposure to significant psychological stressors that can occur on service.

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39. A term that describes the disease sufficiently for the purposes of the Act, is "chronic multisymptom illness". Although the term was originally developed to investigate the health of Gulf War veterans, it can be used to include all veterans or serving members with symptoms which meet the definition.

**PART VII  DECISION**

40. At its meeting on 9th April 2014 the Authority decided to make Statements of Principles in respect of chronic multisymptom illness.
PART VIII  BIBLIOGRAPHY

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Statement of Reasons regarding chronic multisymptom illness


